

PCT Application  
PCT/JP2002/011131



Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference WPCT-02019	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP02/11131	International filing date (day/month/year) 25 October 2002 (25.10.02)	Priority date (day/month/year)
International Patent Classification (IPC) or national classification and IPC H01Q 13/02, 13/08		
Applicant COMMUNICATIONS RESEARCH LABORATORY, INDEPENDENT ADMINISTRATIVE INSTITUTION		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.  
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
These annexes consist of a total of 1 sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 09 December 2002 (09.12.02)	Date of completion of this report 25 July 2003 (25.07.2003)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP02/11131

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
 pages \_\_\_\_\_ 1-9 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages \_\_\_\_\_ 1-6 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_ 7 \_\_\_\_\_, filed with the letter of \_\_\_\_\_ 22 April 2003 (22.04.2003)
- ☒ the drawings:  
 pages \_\_\_\_\_ 1-9 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-7	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-7	NO
Industrial applicability (IA)	Claims	1-7	YES
	Claims		NO

### 2. Citations and explanations

Document 1: JP, 10-242745, A (Director General of Communications Research Laboratory), 11 September, 1998

Document 2: JP, 7-297625, A (Sony Corp.), 10 November, 1995

Document 3: JP, 5-206721, A (Toshiba Corp.), 13 August, 1993

The inventions relating to claims 1-4 do not appear to involve an inventive step based on documents 1 and 2 cited in the ISR.

Document 2 (Par. Nos. [0066], [0067], Fig. 17) teaches an electrostatic focusing means having an opening part shaped such that the size of a cross-section continuously increases from one end to the other to obtain a desired antenna gain.

Therefore, with respect to the shape of the cylinder opening of the antenna device described in document 1 (column 2, left column line 32 to right column line 4), making the shape of said cylinder of document 1 substantially conical after reference to the electrostatic focusing means having an opening part having the above shape of document 2 can be easily achieved by a party skilled in the art. (Therefore, the applicant's assertion "therefore, it is hard to say that...in the present application and document 2" as set forth in the written reply dated April 22, 2003 (page 3, lines 6-10) cannot be accepted.)

In addition, this examination finds that the invention for the antenna device of document 1 is, as can be seen in the description in Par. Nos. [0002]-[0006], an invention overcoming shortcomings in horn antenna and the like, and because a horn antenna is large and heavy a cylinder is provided around a micro strip antenna in place of a horn. This being the case, because the horn antenna described in document 1 has a substantially conical shape, based on this point, this examination finds that making the shape of the above cylinder substantially conical would be easy for a party skilled in the art.

Furthermore, the above written reply (page 3, lines 3 and 4) states that "said cavity is not grounded to a conductive ground plate"; however, document 1 (Par. No. [0009]) describes that a cylinder 4 is grounded to a ground plate 3.

The invention relating to claim 5 is described in document 1 cited in the ISR (column 3, left column, line 32 to right column, line 8); thus it does not appear to involve an inventive step.

The invention relating to claim 6 is described in document 1 cited in the ISR (column 3, right column, lines 9-36); thus it does not appear to involve an inventive step.

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

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**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

**Continuation of Box V:**

The invention relating to amended claim 7 does not appear to involve an inventive step based on documents 1-3.

Document 2 describes a cavity for the top of a micro strip antenna having various shapes. Document 3 (column 3, right column, lines 21-26) describes a technical means for detachably connecting the various parts of an antenna.

Therefore, when the above technical means of document 3 is applied to the cylinder of document 1, making it capable of replacing various shaped cylinders would be easy for a party skilled in the art.